

## PATENT COOPERATION TREATY

PCT

## NOTIFICATION OF ELECTION

(PCT Rule 61.2)

From the INTERNATIONAL BUREAU

To:

Assistant Commissioner for Patents  
United States Patent and Trademark  
Office  
Box PCT  
Washington, D.C. 20231  
ÉTATS-UNIS D'AMÉRIQUE

in its capacity as elected Office

<b>Date of mailing (day/month/year)</b> 29 February 2000 (29.02.00)	
<b>International application No.</b> PCT/EP99/04416	<b>Applicant's or agent's file reference</b> N74825ASMW
<b>International filing date (day/month/year)</b> 25 June 1999 (25.06.99)	<b>Priority date (day/month/year)</b> 25 June 1998 (25.06.98)
<b>Applicant</b> POUWELS, Pieter, Hendrik et al	

1. The designated Office is hereby notified of its election made:

☒ in the demand filed with the International Preliminary Examining Authority on:

24 January 2000 (24.01.00)

☐ in a notice effecting later election filed with the International Bureau on:2. The election ☒ was☐ was not

made before the expiration of 19 months from the priority date or, where Rule 32 applies, within the time limit under Rule 32.2(b).

<p>The International Bureau of WIPO 34, chemin des Colombettes 1211 Geneva 20, Switzerland</p> <p>Facsimile No.: (41-22) 740.14.35</p>	<p>Authorized officer Claudio Borton</p> <p>Telephone No.: (41-22) 338.83.38</p>
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## INTERNET COOPERATION TREATY

PCT

NOTIFICATION OF THE RECORDING  
OF A CHANGE(PCT Rule 92bis.1 and  
Administrative Instructions, Section 422)

From the INTERNATIONAL BUREAU

To:

WRIGHT, Simon, Mark  
J.A. Kemp & Co.  
14 South Square  
Gray's Inn  
London WC1R 5LX  
ROYAUME-UNI

Date of mailing (day/month/year) 17 January 2000 (17.01.00)	<b>IMPORTANT NOTIFICATION</b>
Applicant's or agent's file reference N74825ASMW	
International application No. PCT/EP99/04416	International filing date (day/month/year) 25 June 1999 (25.06.99)

## 1. The following indications appeared on record concerning:

☒ the applicant ☐ the inventor ☐ the agent ☐ the common representative

Name and Address GIST-BROCADES B.V. Wateringseweg 1 P.O. Box 1 NL-2600 MA Delft Netherlands	State of Nationality NL	State of Residence NL
	Telephone No.	
	Facsimile No.	
	Teleprinter No.	

## 2. The International Bureau hereby notifies the applicant that the following change has been recorded concerning:

☒ the person ☐ the name ☐ the address ☐ the nationality ☐ the residence

Name and Address DSM N.V. Het Overloon 1 NL-6411 TE Heerlen Netherlands	State of Nationality NL	State of Residence NL
	Telephone No.	
	Facsimile No.	
	Teleprinter No.	

## 3. Further observations, if necessary:

## 4. A copy of this notification has been sent to:

☒ the receiving Office ☒ the designated Offices concerned  
☐ the International Searching Authority ☐ the elected Offices concerned  
☐ the International Preliminary Examining Authority ☐ other:

The International Bureau of WIPO 34, chemin des Colombettes 1211 Geneva 20, Switzerland	Authorized officer  S. De Michiel
Facsimile No.: (41-22) 740.14.35	Telephone No.: (41-22) 338.83.38

# PCT

## INTERNATIONAL SEARCH REPORT

(PCT Article 18 and Rules 43 and 44)

Applicant's or agent's file reference <b>N 74825 A SMW</b>	<b>FOR FURTHER ACTION</b> see Notification of Transmittal of International Search Report (Form PCT/ISA/220) as well as, where applicable, item 5 below.	
International application No. <b>PCT/EP 99/ 04416</b>	International filing date (day/month/year) <b>25/06/1999</b>	(Earliest) Priority Date (day/month/year) <b>25/06/1998</b>
Applicant <b>POUWELS, Pieter</b>		

This International Search Report has been prepared by this International Searching Authority and is transmitted to the applicant according to Article 18. A copy is being transmitted to the International Bureau.

This International Search Report consists of a total of 3 sheets.

☒ It is also accompanied by a copy of each prior art document cited in this report.

### 1. Basis of the report

a. With regard to the language, the international search was carried out on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.

☐ the international search was carried out on the basis of a translation of the international application furnished to this Authority (Rule 23.1(b)).

b. With regard to any nucleotide and/or amino acid sequence disclosed in the international application, the international search was carried out on the basis of the sequence listing:

☒ contained in the international application in written form.

☒ filed together with the international application in computer readable form.

☐ furnished subsequently to this Authority in written form.

☐ furnished subsequently to this Authority in computer readable form.

☒ the statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.

☒ the statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished

2. ☐ Certain claims were found unsearchable (See Box I).

3. ☐ Unity of invention is lacking (see Box II).

### 4. With regard to the title,

☒ the text is approved as submitted by the applicant.

☐ the text has been established by this Authority to read as follows:

### 5. With regard to the abstract,

☒ the text is approved as submitted by the applicant.

☐ the text has been established, according to Rule 38.2(b), by this Authority as it appears in Box III. The applicant may, within one month from the date of mailing of this international search report, submit comments to this Authority.

### 6. The figure of the drawings to be published with the abstract is Figure No.

☒ as suggested by the applicant.

☐ because the applicant failed to suggest a figure.

☐ because this figure better characterizes the invention.

1  
☐ None of the figures.

## INTERNATIONAL SEARCH REPORT

International Application No.  
PCT/EP 99/04416

## A. CLASSIFICATION OF SUBJECT MATTER

IPC 6 C12N15/31 C12N15/63 A23K1/00

According to International Patent Classification (IPC) or to both national classification and IPC

## B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 6 C12N A23K

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	T.G. REHBERGER ET AL.: "Characterization of Propionibacterium plasmids" APPLIED AND ENVIRONMENTAL MICROBIOLOGY, vol. 56, no. 4, 1990, pages 864-871, XP002096895 *see the whole article*	1-31
Y	Abstracts of the 89th annual meeting of the American society for microbiology, 1989, H-223. T. Rehberger et al.: "Plasmid associated cell aggregation in Propionibacterium jensenii P38" XP002096897 *see the whole abstract*	1-31
	-/-	

☒ Further documents are listed in the continuation of box C.

☒ Patent family members are listed in annex.

## \* Special categories of cited documents:

"A" document defining the general state of the art which is not considered to be of particular relevance

"E" earlier document but published on or after the international filing date

"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)

"O" document referring to an oral disclosure, use, exhibition or other means

"P" document published prior to the international filing date but later than the priority date claimed

"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art

"&" document member of the same patent family

Date of the actual completion of the international search

13 December 1999

Date of mailing of the international search report

20/12/1999

Name and mailing address of the ISA

European Patent Office, P.B. 5818 Patentlaan 2  
NL - 2280 HV Rijswijk  
Tel. (+31-70) 340-2040, Tx. 31 651 epo nl,  
Fax: (+31-70) 340-3016

Authorized officer

Marie, A

# INTERNATIONAL SEARCH REPORT

International Application No  
PCT/EP 99/04416

## C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	Abstracts of the 85th annual meeting of the american society for microbiology, 1985, 85/0, 254, abstract P-20. T. Rehberger et al.: "Isolation of plasmid DNA in propionibacterium". XP002096896 *see the whole abstract*	1-31
Y	EP 0 400 931 A (NIPPON OIL CO, LTD) 5 December 1990 (1990-12-05) *see the whole patent*	1-31

# INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

PCT/EP 99/04416

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
EP 0400931 A	05-12-1990	JP 2312590 A CA 2017605 A	27-12-1990 29-11-1990

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PATENT COOPERATION TREATY

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INTERNATIONAL PRELIMINARY EXAMINATION REPORT

(PCT Article 36 and Rule 70)

5620  
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Applicant's or agent's file reference N 74825 A SMW	<b>FOR FURTHER ACTION</b> See Notification of Transmittal of International Preliminary Examination Report (Form PCT/IPEA/416)	
International application No. PCT/EP99/04416	International filing date (day/month/year) 25/06/1999	Priority date (day/month/year) 25/06/1998
International Patent Classification (IPC) or national classification and IPC C12N15/31		
Applicant DSM N.V. et al.		

1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.


2. This REPORT consists of a total of 5 sheets, including this cover sheet.

- ☐ This report is also accompanied by ANNEXES, i.e. sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).

These annexes consist of a total of sheets.

3. This report contains indications relating to the following items:

- I ☒ Basis of the report
- II ☐ Priority
- III ☐ Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- IV ☐ Lack of unity of invention
- V ☒ Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- VI ☐ Certain documents cited
- VII ☐ Certain defects in the international application
- VIII ☒ Certain observations on the international application

Date of submission of the demand  24/01/2000	Date of completion of this report  07.12.2000
Name and mailing address of the international preliminary examining authority:   European Patent Office D-80298 Munich Tel. +49 89 2399 - 0 Tx: 523656 epmu d Fax: +49 89 2399 - 4465	Authorized officer  Vollbach, S  Telephone No. +49 89 2399 8715



# INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No. PCT/EP99/04416

## I. Basis of the report

1. This report has been drawn on the basis of *(substitute sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to the report since they do not contain amendments (Rules 70.16 and 70.17).):*

### Description, pages:

1-50 as originally filed

### Claims, No.:

1-38 as originally filed

### Drawings, sheets:

1/3-3/3 as originally filed

2. With regard to the **language**, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.

These elements were available or furnished to this Authority in the following language: , which is:

- ☐ the language of a translation furnished for the purposes of the international search (under Rule 23.1(b)).
- ☐ the language of publication of the international application (under Rule 48.3(b)).
- ☐ the language of a translation furnished for the purposes of international preliminary examination (under Rule 55.2 and/or 55.3).

3. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, the international preliminary examination was carried out on the basis of the sequence listing:

- ☐ contained in the international application in written form.
- ☐ filed together with the international application in computer readable form.
- ☐ furnished subsequently to this Authority in written form.
- ☐ furnished subsequently to this Authority in computer readable form.
- ☐ The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.
- ☐ The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.

4. The amendments have resulted in the cancellation of:

- ☐ the description, pages:
- ☐ the claims, Nos.:



# INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No. PCT/EP99/04416

☐ the drawings, sheets:

5. ☐ This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed (Rule 70.2(c)):

*(Any replacement sheet containing such amendments must be referred to under item 1 and annexed to this report.)*

6. Additional observations, if necessary:

## V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

### 1. Statement

Novelty (N)	Yes:	Claims	5,7,10-15,26,27
	No:	Claims	1-4,6,8,9,16-25,28-38
Inventive step (IS)	Yes:	Claims	
	No:	Claims	5,7,10-15,26,27
Industrial applicability (IA)	Yes:	Claims	1-38
	No:	Claims	

2. Citations and explanations  
**see separate sheet**

## VIII. Certain observations on the international application

The following observations on the clarity of the claims, description, and drawings or on the question whether the claims are fully supported by the description, are made:  
**see separate sheet**

1. **Applied and Environmental Microbiology, 1990, 56/4, 864-871 (D1)** describes various plasmids having their origin in *Propionibacterium*. For instance, pRGO5 seems to be responsible for the clumping phenotype. Since these plasmids can be cured by acriflavin, it can be assumed that they are extrachromosomal. Furthermore the use of propionibacteria in several industrial fermentations are disclosed.

A similar teaching can be drawn from **Abstracts of the 89th Annual Meeting of the American Society for Microbiology, 1989, H-223 (D2)** and/or **85th Annual Meeting of the American Society for Microbiology, 1985, 85/0. P20 (D3)**.

**EP-400931 (D4)** also describes a plasmid from *Propionibacterium*, pTY1, which is capable of replicating in the cells and speculates on a possible use of said plasmid as a vector.

With respect to these documents present claim 2 and all claims which make reference to said claim are no longer new as required by Article 33(2) PCT, i.e. claims 8,9,17,18,19,20,21,22,23,24,25,28,29,30,31-38, because the scope of said claims departs from the specific isolated plasmids such that the prior art plasmids and their uses are encompassed. It should be noted that the definition "when comprising a heterologous gene" used in claim 2 has no effect on the scope of said claim.

In addition, present claims are not allowable under Article 33(2) PCT either, since the polynucleotides according to claim 1 are not defined by length nor by the exact sequence due to the vague definition of "capable of hybridisation". Therefore sequences which are known from D1 to D4 but also from the homology search carried out by the applicant in fact are covered by said claim. The same objection also apply to present claims 3,4,6 and 16.

Besides this novelty objection, these claims give raise to a clarity objection (Article 6 PCT).

2. The features of the dependent claims 10-15,25 and 26 are in the light of any of D1 to D4 in combination with the general knowledge not considered to be inventive (Article 33(3) PCT).

**INTERNATIONAL PRELIMINARY  
EXAMINATION REPORT - SEPARATE SHEET**

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International application No. PCT/EP99/04416

3. The terms "capable of hybridizing" and "substantially homologous" used in claims 1, 6 and 16 are indefinite so that the scope of protection is unclear contrary to Article 6 PCT.

Claim 17 states that the "host cell can be transformed". The word "can" should be replaced by the wording "has been" in order to render the claim clear as required by Article 6 PCT.

4. Summary, the gist of the present application is considered to consist in the finding of novel plasmids from propionibacteria and their use. The specific plasmids are neither disclosed nor suggested in the prior art. Since, however, the claims are broadened by way of using vague terms, or lacking references to other claims (see e.g. claim 2), most of the claims presently on file lack novelty. As a consequence thereof the claims give rise to an objection under Rule 13.1-13.3 PCT. The objections may be overcome by restricting the claims to the plasmids actually identified in the application and their uses.